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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,959	09/22/2003	Yutaka Katsuyama	826.1526D	7314

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STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

SHERALI, ISHRAT I

ART UNIT PAPER NUMBER

2621

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/664,959	<b>Applicant(s)</b> KATSUYAMA, YUTAKA	
	<b>Examiner</b> Sherali Ishrat	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6 and 13-21 is/are rejected.
- 7) ☒ Claim(s) 22 and 23 is/are objected to.
- 8) ☒ Claim(s) 3-5,7-12 and 24-35 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/228,427.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/30/2003</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## **DETAILED ACTION**

### **Election/Restrictions**

1. This application contains claims directed to the following patentably distinct species of the claimed invention: species 1 shown by figure 3, species 2 shown by figure 4, species 3 shown by figure 5, species 4 shown by figure 6, species 5 shown by figure 8, species 6 shown by figure 9 and species 7 shown by figure 22.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

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case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. A telephone call was made to Mr. J. Randall Beckers on 10/1/04 to request an oral election to the above election requirement. Mr. J. Randall Beckers elected species 3, illustrated by figure 5 and corresponding claims 1-2, 6, and 13-23 without traverse. Detailed action on the elected claims 1-2, 6 and 13-23 follows below.

### **Claim Rejections - 35 USC § 112**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 6 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, lines 5-6, claim recites "average color comparing means for comparing the color of a pixel adjacent to the considered pixel and the average color". This limitation is considered indefinite because it is not understood if the average color is compared with the color of the considered pixel or the average color is compared with the color of a pixel adjacent to the considered pixel.

Regarding claim 6, lines 6-7, claim recites "determines that the similarities of colors of the areas are '0' when the color difference of the three colors elements of the

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area is smaller than a variable threshold". This limitation is considered indefinite because it is not understood what is '0'. Is '0' should be read as zero?

Regarding claim 6, lines 6-7, claim recites "determines that the similarities of colors of the areas are '0' (zero ?) when the color difference of the three colors elements of the area is smaller than a variable threshold". This limitation is considered indefinite because this limitation contradict the limitation in independent claim 1, which is comparing color information of adjacent pixels and assigning the same label [color similarities] to the pixels when the distance thereof is the threshold or less.

Regarding claim 6, lines 9-11, claim recites "similarities of colors of area are larger than threshold value when the color difference of the three color elements of the areas is equal to or larger than the threshold". This limitation is considered indefinite because this limitation contradict the limitation in independent claim 1, which is comparing color information of adjacent pixels and assigning the same label [similarities of color] to the pixels when the distance thereof is the threshold or less.

Regarding claim 14, lines 5-6, claim recite "the meshes being rotated and superimposed each other". This limitation is in the form of improper English. Examiner suggest that claim should recite "the meshes being rotated and superimposed on each other". Claims 15-19 are dependent on claim 14 therefore they are also rejected.

## **Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,13 and 20-21 are rejected under 102 (b) as being anticipated by Donnelly et al. (US 5,454,070).

Regarding claim 1, Donnelly discloses color image processing (Donnelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed of the region. When such pixel is found, it is added to the region and another such pixel is searched" This corresponds to color image processing);

color image inputting means for inputting a color image and outputting a color image signal (Donnelly in figure 6 shows in figure 6, and states in col. 8, lines 27-37, pixel data [which is color pixel data as discussed above], is inputted from scanner or video camera to computer and graphics system output raster data to raster display such as printer or video display);

holding means for holding the color image signal (Donlley in figure 6 shows and states in col. 8, lines 28-30, pixel data [block 29], from image source is inputted to the computer and stored in memory [block 31]);

calculating means for processing the color image signal (Donnelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed of the region. When

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such pixel is found, it is added to the region and another such pixel is searched" This corresponds to calculating means for processing the color image signal);

threshold value assigning means for assigning a threshold value corresponding to color information of considered pixel (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed [pixel] of the region. In the system of Donelly predetermined threshold in color difference corresponds to threshold value assigning means for assigning a threshold value corresponding to color information of considered pixel); and

labeling means for comparing color information of a adjacent pixels (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed [pixel] of the region. When such pixel is found, it is added to the region and another such pixel is searched" Donelly is labeling pixel by adding pixel into the region) and

assigning the same label to the pixels when distance thereof is the threshold or less (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed of the region. When such pixel is found, it is added to the region and another such

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pixel is searched" This corresponds to assigning the same label [adding to pixel region] to the pixels when distance thereof is the threshold or less).

Regarding claim 13, Donelly discloses pattern extracting (Donelly in col. 1, lines 6-10 "The present invention relates to picture data conversion and converting a collection of pixel data to a corresponding collection of spline bounded regions" This corresponds to pattern extracting [bounded region]): comprising

color difference calculating means for calculating for calculating difference between adjacent pixels of an area represented with a predetermined color (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed of the region". This corresponds to color difference calculating means for calculating for calculating difference between adjacent pixels of an area represented with a predetermined color);

threshold value assigning means for assigning a threshold value corresponding to color difference (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed of the region". In the system of Donelly predetermined threshold in color difference from color of the seed [pixel] of the region corresponds to threshold value assigning means for assigning a threshold value corresponding to color difference); and



labeling means for assigning a label to a pixel adjacent to a pixel represented with a predetermined color corresponding to the threshold value (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed [pixel] of the region. When such pixel is found, it is added to the region ". In the system of Donelly adding pixel to the region when color difference is within a predetermined threshold corresponds to labeling means for assigning a label to a pixel adjacent to a pixel represented with a predetermined color corresponding to the threshold value).

Regarding claim 20, Donelly discloses grouping means for categorizing label images labeled by labeling means as a group (Donelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed [pixel] of the region. When such pixel is found, it is added to the region ". In the system of Donelly adding of pixel to the region corresponds to categorizing label images labeled by labeling means as a group).

Regarding claim 21, Donelly discloses grouping means categorizes a label image as a group corresponding to the thickness of a pattern of the label image (Donelly in col. 5, lines 58-60, ""The image is now made up of regions. Each region has outer-boundary and zero or more inner boundary". This corresponds to grouping means categorizes a label image as a group corresponding to the thickness of a pattern [outer boundary] of the label image as shown in figure 4 (A) —4 (D)).

## **Claim Rejections - 35 USC § 103**

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donnelly et al. (US 5,454,070) in view of Kapfer et al. (Detection of human face in color image sequence with arbitrary motions for very low bit-rate videophone coding, Elsevier Science B.V, 0167-8655/97).

Regarding claim 2, Donnelly discloses color comparing means for comparing the color of a pixel and pixels adjacent to the considered pixel (Donnelly states in col. 2, lines 65-67 thru col. 3, lines 1-3 "The perimeter of the region is searched for pixels which are also unowned, that are 4-connected to the region, and are within a predetermined threshold in color difference from color of the seed [pixel] of the region. When such pixel is found, it is added to the region ").

Donnelly however have not disclosed obtaining the average color of pixels assigned the same label, average color comparing means for comparing the colors of a considered pixel and the average pixel and assigning the same label when the compared result is in a predetermined range .

In the same field of endeavor Kapfer discloses obtaining the average color of pixels assigned the same label (Kapfer, in page 1509, paragraph 3.3, left-column, lines

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8-9, states "obtaining mean color vector of the block". This corresponds to obtaining the average color of pixels assigned the same label [block]);

average color comparing means for comparing the colors of a considered pixel and average pixel color (Kapfer, in page 1509, paragraph 3.3, left-column, lines 6-9, states "Here  $d(V_i, V)$  is the Euclidean distance between a color vector of pixel  $i$  in the block and mean color vector of the block,  $T_s$  is a predefined threshold" This corresponds to average color comparing means for comparing the colors of a considered pixel and average pixels color) and

assigning the same label when the compared result is in a predetermined range (Kapfer, in page 1509, paragraph 3.3, left-column, lines 1-9, states "Since color is used in this work, homogeneity criteria are reformulated, block is considered homogenous if  $\max_i(d(V_i, V)) < T_s$ , Here  $d(V_i, V)$  is the Euclidean distance between a color vector of pixel  $i$  in the block and mean color vector of the block [homogenous block],  $T_s$  is a predefined threshold". This corresponds to assigning the same label to pixel  $i$  in the block [color homogeneity /same color] when compared result is in a predetermined range).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to obtain the average color of pixels assigned the same label [homogenous block of pixels], compare color of a considered pixel and average pixels color and assign the same label when the compared result is in a predetermined range as shown by Kapfer in the system of Donely because such a system provide efficient process of detection of closed regions and pattern recognition using color.

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9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donnelly et al. (US 5,454,070) in view of Fujita et al (US 6,317,220).

Regarding claim 14, Donnelly discloses printer (Donnelly shows in figure 6, block 35, printer for printing graphics).

Donnelly however have not disclosed print model generating means having meshes of basic colors, basic dots being deposit at lattice points of the meshes, the meshes being rotated and superimposed on each other, the sizes of the basic dots being varied, so as to generate a color as a print model.

In the same field of endeavor Fujita discloses print model generating means having meshes of basic colors (Fujita in col. 34, lines 10-15, states "colors are superimposed by the multi-color multilane screen to print a full color image, the line 308 are superimposed at the same position", This corresponds to print model generating means having meshes of basic colors),

basic dots being deposit at lattice points of the meshes (Fujita, in figure 56, shows basic dots deposited in the regular pattern at lattice points of the meshes),

the meshes being rotated and superimposed on each other (Fujita in col. 34, lines 10-15, states "colors are superimposed by the multi-color multilane screen to print a full color image, the line 308 are superimposed at the same position and in col. 34, lines 39-43, "deviation of registration experience with the multi-line screen, print patterns in plural colors formed by intentionally deviating the registration in a usual color superimposition operation are prepared to evaluate the influences on the stability in

reproducing colors". This corresponds to the meshes being rotated and superimposed [registration] on each other).

the sizes of the basic dots being varied, so as to generate a color as a print model (Fujita in col. 34, lines 1-5, "image forming apparatus according to the present invention comprises the multi-line screen having a screen pitch of 127 um corresponding to resolution of 200 lpi. The screen pitch may be varied in accordance with the density of the image and type of the print sample" and in col. 34, lines 29-35, "the screen pitch was determined to be 127 um corresponding to resolution of 200 lpi, 170 um corresponding to 150 lpi and 254 um corresponding to 100 lpi". This corresponds to the sizes of the basic dots being varied, so as to generate a color as a print model).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to generating print model having meshes of basic colors, deposit basic dots at lattice points of the meshes, rotating and superimposing the meshes on each other and vary the sizes of the basic dots to generate a color print model as shown by Fujita in the printer system of Donnelly (See Donnelly, figure 6, block 35) because such a process provide printing of multi-color images using electrographic process.

### **Allowable Subject Matter**

10. Claims 15-19 and 22-23 are objected as being dependent on rejected claim but would be allowable if rewritten in independent form including limitations of the base claim and any intervening claims. Also provided that Applicant overcome the rejection of claim 14 under 35 U.S.C 112 second paragraph.

## Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherali Ishrat whose telephone number is 703-308-9589. The examiner can normally be reached on 8:00 AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

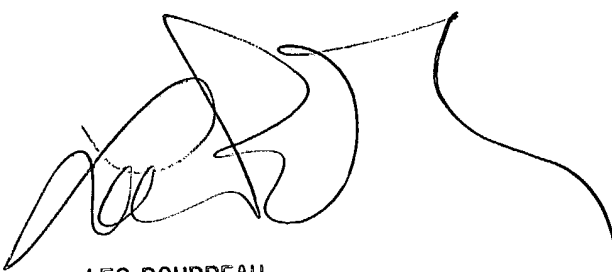


Ishrat Sherali

Patent Examiner

Art Unit 2621

October 22, 2004



LEO BOUDREAU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600